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REMARKS

The Applicants request reconsideration of the Final Rejection mailed May 1, 2006.

Claims 26-31 remain pending.

Claims 26-27 and 29-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dobbins et al., U.S. Patent No. 5,485,455 (Dobbins) in view of Jain et al., U.S. Patent No. 6,311,218 (Jain). The Applicants traverse as follows.

Independent claims 26 and 29 are respectively directed to a network relaying method and apparatus in which a packet containing a packet transmission source address is received at an I/O port. The method determines whether a combination of the I/O port and the packet transmission source address coincides with a combination that has been registered in advance. When the combination coincides with the pre-registered combination, the packet is transferred via a second I/O port.

When, however, it is determined that the combination does not coincide with a pre-registered combination, a user authentication is requested to the source terminal of the received packet. Upon receiving the user authentication information sent from the source terminal, the method executes user authentication of the user based on the user authentication information. If the user is authenticated, the method registers the first I/O port with a correspondence to the packet transmission source address, and transfers the packet received at the first I/O port via the second I/O port. However, when the user is not authenticated in the executing step, the method does not transfer the packet.

Apparatus claim 29 is similar in requiring a relay portion which determines a transmitting I/O port and which determines whether a combination of the receiving I/O port and a packet transmission source address contained in the packet coincides with a combination of an I/O port and a transmission source address that have been registered in advance. The relay portion transfers the received packet from the transmitting I/O port when it is determined that the combination coincides with a pre-registered combination.

However, the relay portion requests user authentication from the source terminal of the received packet when it is determined that the combination does not have a coincidence with a pre-registered combination. An authentication portion of the apparatus performs user authentication based on user authentication information sent from the source terminal in response to the request for user authentication, and registers a receiving I/O port with a correspondence to the packet transmission source address when user authentication is confirmed. However, when the authentication portion does not authenticate the user, the relay portion does not transfer the receipt packet.

That is, the received packet is relayed or transferred when the receive port and the transmission source address of the received packet are registered in advance, and user authentication is executed when the received port and the transmission source address of the received packet are not registered in advance. When the user authentication is successful, a received packet is relayed or transferred, and a combination of the received port and the transmission source address of the received packet are registered. Subsequent relaying or transferring

or received packet from that transmission source address on that port can thus be permitted without additional user authentication.

Turning to the references applied in the rejection, the primary reference to Dobbins is cited as disclosing the receipt of a packet containing a source address and a destination address, with switching performed according to the coincidence of the source address/destination address combination with a pre-stored combination. Dobbins discloses that a switch stores combinations of "addresses of the transmission terminals, addresses of the received terminals, received port numbers of the switch, transmission port numbers of the switch, etc." and the switch determines the transmission or relaying destination based on the combinations. In this manner, the data communication in the connectionless mode originally is treated provisionally as a data communication path in the connection oriented mode, and the path is subjected to QoS control. Thus, Dobbins does not teach or suggest a scheme by which the unauthorized use of an address, tapping of data, or feigning of another person can be prevented, or to facilitate the realization of the analysis and recovery of erroneous address settings. Further, Dobbins does not perform a determination as to the permission or inhibition of relaying a packet based on user authentication. Instead, Dobbins merely discards a received packet which does not correspond to one of the pre-stored combinations noted above.

The Applicants previously suggested that Dobbins teaches that a packet is transmitted from all ports except for the inbound port when the destination is uncertain, to which the Examiner responded that such is an aspect of the prior art to Dobbins "[b]ecause SFPS uses both the source and destination addresses it does

not have the failings of current bridges and routers." In reply, the Applicants note Fig. 7C-2 of Dobbins, which shows that a packet received without a registered source address-destination address is either treated as a broadcast (i.e., output from all ports) or discarded. Thus, although the Applicants' remarks in the prior Office Action were somewhat incomplete, it is nevertheless true that Dobbins does not treat an incoming packet in the same way as claimed. Specifically, and as also noted by the Examiner, Dobbins does not permit a non-broadcasted packet to be transmitted to its desired destination at all.

The claimed invention, of course, treats such a packet by requesting a user authentication which, if validated, permits an association to be made between the source address and the destination address such that the packet can be delivered to the destination address via an appropriate transmitting point. Moreover, the packet source address and receive port are registered in combination upon authentication. Jain is applied against this feature of the invention, but Jain clearly teaches that an authentication routine is performed every time an end system ES makes a new connection on a port. Col. 2, lines 3-5. As set forth in col. 4, lines 19-23, an authentication process is called whenever a physical connection is detected on an unauthenticated port or whenever any attempt is made to transmit data on an unauthenticated port. Notably, the authentication does not consider any relationship between the source address and the receive port, or cause a registration thereof after authentication.

Moreover, this teaching is in direct conflict with the teaching of Dobbins, and thus represents a teaching away that renders the combination of these two

references improper. Dobbins positively teaches that a non-broadcast packet failing to contain any source address-destination address combination pre-stored in the connection database must be discarded. In addition, the authentication taught by Jain is not an authentication that is suggested for the circumstance proposed by Dobbins. Instead, as noted above, Jain requires the authentication routine every time an end system makes a new connection. There is no decision process corresponding to that of the claimed invention, wherein a user authentication is performed only when the combination of I/O port and source address is not registered in advance. More significantly, the user authentication is taught by Jain to be implemented "each time there is any interruption in the physical link with an end system connected to a particular network port . . . to determine whether an end system is newly connected to a port, rebooted, or power cycled at a port." Col. 4, lines 49-57. Thus, the person of ordinary skill would not implement Jain's user authentication in Dobbins as suggested by the Examiner (that is, in response to learning that there is no pre-stored source address-destination address combination).

Said differently, Jain is cited as teaching user authentication, but Jain determines the permission or inhibition of relaying packet only in accordance with information as to whether or not a port is connected and whether or not a port is authenticated. Jain does not teach or suggest a scheme that determines, according to whether or not a pre-stored combination exists at a received port and a transmission source address of a received packet coinciding with a combination of the received port and transmission source address registered in advance.

Accordingly, a combination of Dobbins and Jain itself does not perform a determination as to whether a received port and the transmission source address of the received packet coincides with a pre-stored combination via a comparison therebetween. Because the combination of Dobbins and Jain does not perform both the comparison and the determination as to the coincidence, necessarily the combination does not implement a user authentication based on the failure of such comparison or determination, and certainly does not determine the permission or inhibition of relaying the received packet based on such a comparison or determination.

The Applicants note that they do not claim to be first to employ user authentication in packet transmission. Even though Jain is not properly motivated for combination with Dobbins, and even though any such combination is different from the invention as claimed, the Applicants do indeed recognize that many types of user authentication are known to the art. The Applicants urge the Examiner to consider the entire combination invention recited in the claims, and not merely to pick and choose seemingly similar teachings in the various references as a means of asserting that the invention was known.

The Applicants wish to further comment on the Examiner's remark on page 7 of the Office Action that the argument that Jain fails to disclose any correspondence between an I/O port and the source network address is irrelevant because "one cannot show nonobviousness by attacking references individual where the rejections are based on combinations of references." This is well-settled law, of course, of which the Applicants are well aware. It is axiomatic, however, that if neither

reference teaches this feature of the invention, then necessarily the combination fails to teach this feature. In addition, because Jain fails to disclose such a correspondence, the implementation of Jain's authentication scheme is only apparent to the person of ordinary skill in the situation disclosed or suggested by Jain (that is, when an end system is newly connected to a port, rebooted, or power cycled at the port). Thus, it is entirely appropriate to show nonobviousness by demonstrating Jain's failure to disclose any correspondence between an I/O port that has received a packet and a source network address identified in the packet, as set forth in the claims.

Claims 28 and 31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dobbins in view of Jain and Townsend et al., U.S. Patent No. 5,661,719 (Townsend). Townsend is applied as teaching a transmission source address that includes both an IP and MAC address. Townsend is not applied as disclosing the features missing from Dobbins and Jain as outlined above, and thus even in combination with Dobbins and Jain, fails to render obvious the claimed invention.


In view of the foregoing amendments and remarks, Applicants request reconsideration of the rejection and allowance of the claims.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the

deposit account of Mattingly, Stanger & Malur, P.C., Deposit Account No. 50-1417
(referencing attorney docket no. ASA-838).

Respectfully submitted,

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